

### **REMARKS**

This Amendment is filed in response to the Office Action dated February 9, 2005. Applicants appreciate the Examiner's thorough examination of the application as evidenced by the Office Action. In light of the Office Action, Applicants have amended Claims 1, 2, 7, 12, 13, 18, and 20 to further clarify the claims. (These amendments were not made in light of the prior art.). Applicants respectfully submit that the claimed invention is patentable over the cited references. Applicants therefore respectfully request reconsideration and allowance of the application in light of the following remarks.

#### **I. Claims 1, 2, 7, 12, 13, 18, and 20 Are Definite**

On pages 2 and 3, the Office Action rejects Claims 1, 7, 12, and 13 as indefinite for use of the phrase "independent of a processor." In light of this rejection, Applicants have amended these claims to clarify that the network device interface does not use a processor to perform its operations. The claims as amended make it clear that the bus controller has a processor and the network device interface does not.

On page 2, the Office Action rejects Claim 2 as indefinite for use of the phrase "independent of a clock." Applicants also noted a similar issue with claims 13 and 20. Applicants have amended Claims 2, 13, and 20 to recited that the network device interface uses the clock signal from the bus controller for operation.

In light of these amendments, Applicants respectfully submit that Claims 1, 2, 7, 12, 13, 18, and 20 are definite.

#### **II. Description of Claimed Invention**

The present invention is directed to a networked system comprising a plurality sensors and actuators employed in an environment, where each of the sensors and actuators are connected to a bus controller via a common digital bus. Network device interfaces connect the sensors and actuators to the digital bus and control communications between the bus controller and the sensors and actuators. Importantly, to save on costs and complexity, the system uses a simplified communication protocol made up of simple commands. By using the simplified

protocol, the network device interfaces can handle commands without the use of a processor. Instead, the network device interfaces can comprise state machines that handle operations. The network device interfaces do not include a processor.

### **III. Claims Are Patentable**

On page 3, the Office Action rejects Claims 1-15 and 17-20 as anticipated by U.S. Patent No. 6,013,108 to Karolys. The Office Action alleges that the '108 Karolys patent, among other things, discloses network device interfaces that do not comprise processors. The Office Action alleges that Figure 3 and the text accompanying the figure disclose use of a state machine for the transducer-to-bus interface module (TBIM). Applicants respectfully disagree with this rejection. Applicants respectfully argue that the '108 Karolys patent nowhere teaches or suggests that the interface module (TBIM) is a state machine or operates independent of a processor as is recited by the claimed invention.

In particular, Applicants note that the '108 Karolys patent discloses in two places that the bus controller (BCM) is an application specific (ASIC) device, which is a form of state machine. See '108 Karolys patent, Abstract and col. 1, lines 55-56. However, at no point does the '108 Karolys patent teach or suggest that the interface module (TBIM) is a state machine. It is hard to imagine that Karolys et al. would go to the trouble of specifically mentioning that the bus controller is an ASIC and not mention that the interface module was also, if in fact it was. Karolys et al.'s silence on this point leads one to believe that the interface module (TBIM) of the '108 Karolys patent is not a state machine, but instead includes a processor.

Further evidence that the interface module (TBIM) of the '108 Karolys patent is not a state machine operating independent of a processor is that the interface module is capable of performing a self test. This self test is likely program code ran by a processor of the interface module (TBIM). See '108 Karolys patent, Abstract. Further, the '108 Karolys patent discloses that the interface module (TBIM) has a "query/programming/execute mode." See '108 Karolys patent, col. 4, lines 39-40. Applicants respectfully submit that "operation of program" must refer to program code used by the interface module (TBIM) to operate. In order to operate using program code, the interface module (TBIM) must have a higher level processor to function. As

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such, the interface module (TBIM) of the '108 Karolys patent is not a state machine, but instead is a processor or micro-processor.

Independent Claims 1, 12, and 18 all recite that the network device interface comprises a state machine such that said network device interface communicates with said bus controller independent of use of a processor. The '108 Karolys patent neither teaches nor suggests that the interface module (TBIM) disclosed therein is a state machine that operates independent of a processor. As such, Applicants respectfully submit that independent Claims 1, 12, and 18, as well as the claims that depend therefrom, are patentable over the cited references.

### CONCLUSION

In light of the amended claims and the remarks above, Applicants respectfully submit that the case is now in condition for allowance. It is therefore requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required

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therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 8, 2005

